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ONTARIO WATER
RESOURCES COMMISSION

STRATFORD

SEWAGE TREATMENT PLANT

ANNUAL REPORT

1960

PREPARED BY

THE DIVISION OF PLANT OPERATIONS

ONTARIO WATER RESOURCES COMMISSION

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STRATFORD SEWAGE TREATMENT PLANT

GENERAL

The Stratford sewage treatment plant was constructed in 1930 and renovated and enlarged in 1957. The present plant is designed to give complete treatment to 4 million gallons a day with capacity to treat 8 million gallons for short periods. Primary treatment alone can be supplied to 16 million gallons of flow. The plant will then give treatment to a design population of 30,000 people.

OPERATION

During 1960, the plant was under 24 hour supervision 7 days per week. This supervision was supplied by a chief operator and five operators. A casual laborer was hired for several months during the summer to aid in cutting the grass, and other odd jobs around the plant that could not be handled by the operators without neglecting some of their other duties.

A considerable amount of painting was carried out around the plant during the past year. Much of this work was done by the operators and this work will be completed in 1961. Some of the areas painted were the basement of the machinery building, the aeration tank piping, some of the exterior portions of the buildings and the metal parts of the clarifiers.

Experiments with sludge lagooning were started in 1959 and continued in 1960. Two small lagoons were constructed at the back of the plant and sludge was added to them. An attempt was made to simulate actual full scale lagoon operation and records on various phases of the operation were kept. This work was carried out by head office staff of the Ontario Water Resources Commission as part of their experimental or research program.

The hauling of sludge has become an appreciable expense at this and other plants. It is hoped that the information from these tests and the experience of other municipalities will indicate a means for reducing these costs.

LOADINGS

The total flow reaching the plant in 1960 was 1,079,120,000 gallons of sewage or an average of 2.95 million gallons per day. Complete treatment was given to 932,835,000 million gallons of sewage with the remainder receiving primary treatment only. It was necessary to by-pass the plant for 34 hours during the spring floods.

The sewage reaching the plant contained 3,007,000 pounds of BOD or an average of 4.2 tons per day. There was 1,996,000 pounds of suspended solids in the sewage or an average of 2.7 tons per day. This material was consistently reduced by 90 to 95 percent during the year with the exception of the portion not receiving complete treatment.

Settled sludge from the primary tanks amounted to 3,000,000 gallons and this sludge was pumped to the digester where the temperature was maintained at approximately 90° F. Digestion of the solids took place and the sludge gas produced was used for all heating purposes. The liquid digested sludge is hauled away in trucks by a local contractor.

COSTS

The total cost of operation during 1960 was higher than in 1959. Part of this increase was due to the increased amount of sludge hauled, and to the paint work that was necessary during the year. The total cost of operation was \$51,988.98. The expenditure was broken down in the following manner:

Payroll.....	\$ 26,968.09
Fuel.....	1,149.32
Power.....	5,246.25
Chemicals.....	175.08
General Supplies.....	2,659.14
Equipment.....	698.77
Repair and Maintenance...	1,411.93
Sludge Haulage.....	12,871.25
Sundry.....	_____
 TOTAL	\$ 51,988.98

The cost per 1,000 gallons of raw sewage treated during the year would then be 4.6 cents. If the BOD and suspended solids are considered, the cost of treating a pound of this material would be 1.73 cents and 3.85 cents respectively. Applying this cost to the present population of Stratford, indicated that it cost \$2.57 per person per year for sewage treatment. The above costs are based on operating costs alone and do not include capital costs.

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